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FIG. 1

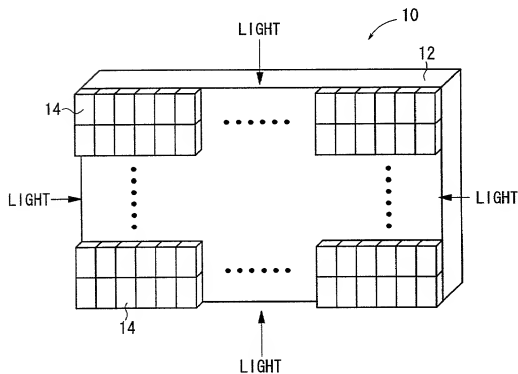


FIG. 2

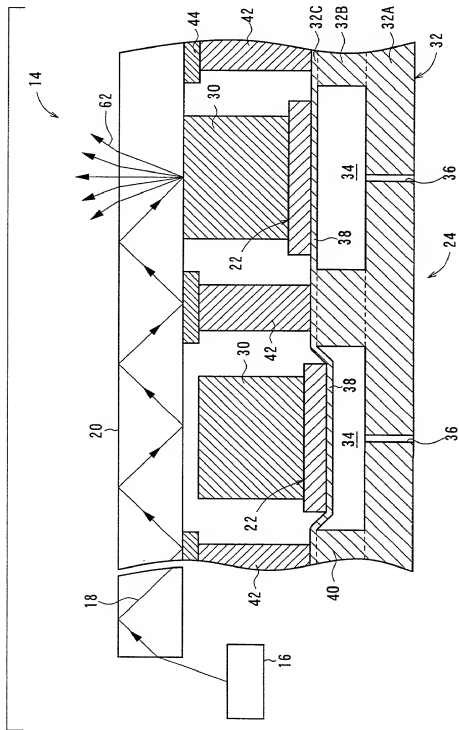
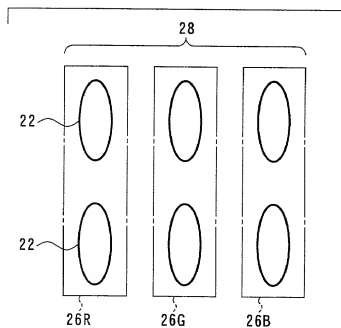
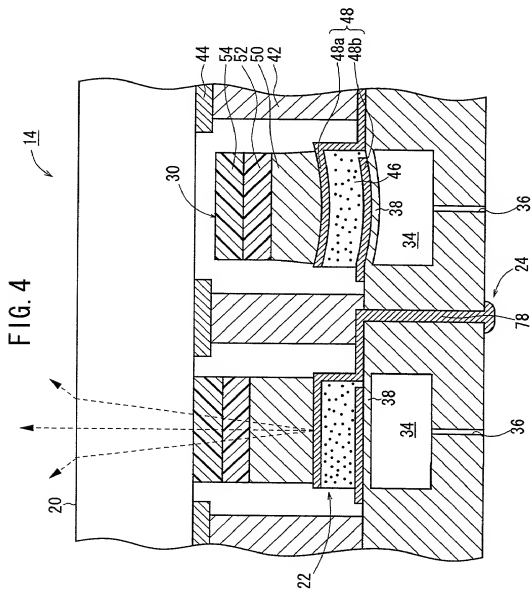


FIG. 3

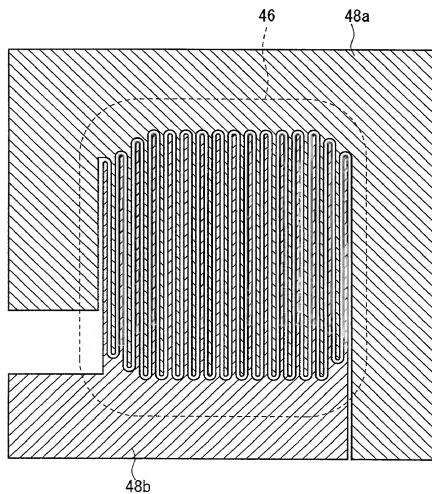


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FIG. 5



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FIG. 6A

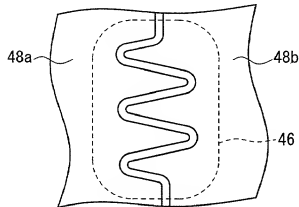
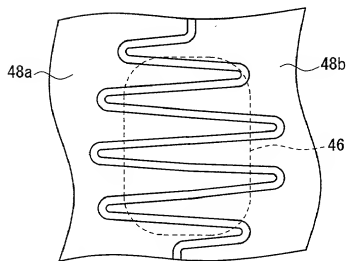


FIG. 6B



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FIG. 7A

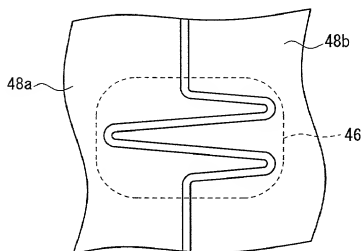
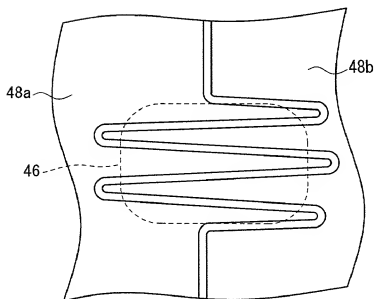
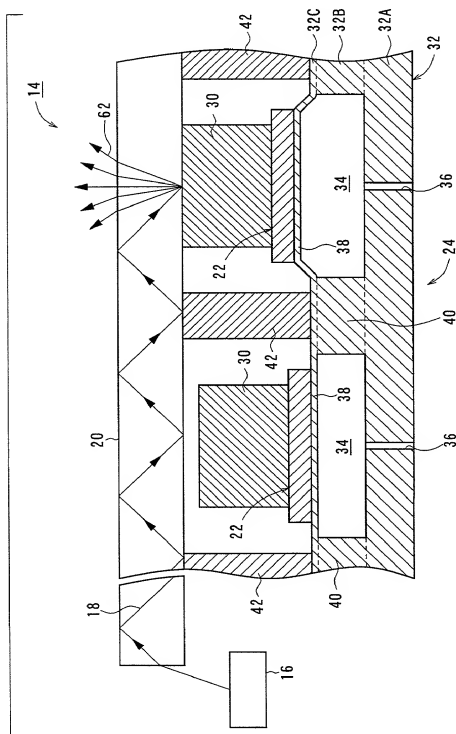


FIG. 7B



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FIG. 8



Species	Genus	Family	Order	Class	Phylum	Kingdom
<i>Escherichia coli</i>	<i>Escherichia</i>	Enterobacteriaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Staphylococcus aureus</i>	<i>Staphylococcus</i>	Staphylococcaceae	Firmicutes	Bacteria	Prokaryota	Prokaryota
<i>Salmonella enterica</i>	<i>Salmonella</i>	Enterobacteriaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Streptococcus pneumoniae</i>	<i>Streptococcus</i>	Streptococcaceae	Firmicutes	Bacteria	Prokaryota	Prokaryota
<i>Neisseria meningitidis</i>	<i>Neisseria</i>	Neisseriaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Listeria monocytogenes</i>	<i>Listeria</i>	Listeriaceae	Firmicutes	Bacteria	Prokaryota	Prokaryota
<i>Campylobacter jejuni</i>	<i>Campylobacter</i>	Campylobacteraceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Yersinia enterocolitica</i>	<i>Yersinia</i>	Yersiniaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Shigella flexneri</i>	<i>Shigella</i>	Shigellaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Haemophilus influenzae</i>	<i>Haemophilus</i>	Haemophilaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota
<i>Mycobacterium tuberculosis</i>	<i>Mycobacterium</i>	Mycobacteriaceae	Actinobacteria	Bacteria	Prokaryota	Prokaryota
<i>Cryptosporidium parvum</i>	<i>Cryptosporidium</i>	Cryptosporidiaceae	Apicomplexa	Eukaryota	Eukaryota	Eukaryota
<i>Toxoplasma gondii</i>	<i>Toxoplasma</i>	Toxoplasmatidae	Apicomplexa	Eukaryota	Eukaryota	Eukaryota
<i>Giardia lamblia</i>	<i>Giardia</i>	Giardiaceae	Excavata	Eukaryota	Eukaryota	Eukaryota
<i>Trichomonas vaginalis</i>	<i>Trichomonas</i>	Trichomonadaceae	Excavata	Eukaryota	Eukaryota	Eukaryota
<i>Leishmania donovani</i>	<i>Leishmania</i>	Leishmaniaceae	Kinetoplastida	Eukaryota	Eukaryota	Eukaryota
<i>Plasmodium falciparum</i>	<i>Plasmodium</i>	Plasmodiidae	Alveolates	Eukaryota	Eukaryota	Eukaryota
<i>Trypanosoma brucei</i>	<i>Trypanosoma</i>	Trypanosomatidae	Kinetoplastida	Eukaryota	Eukaryota	Eukaryota
<i>Amoeba proteus</i>	<i>Amoeba</i>	Amoebozoa	Amoebozoa	Eukaryota	Eukaryota	Eukaryota
<i>Dictyostelium discoideum</i>	<i>Dictyostelium</i>	Dictyostelaceae	Amoebozoa	Eukaryota	Eukaryota	Eukaryota
<i>Paramecium caudatum</i>	<i>Paramecium</i>	Ciliophora	Ciliophora	Eukaryota	Eukaryota	Eukaryota
<i>Euglena gracilis</i>	<i>Euglena</i>	Euglenaceae	Euglenozoa	Eukaryota	Eukaryota	Eukaryota
<i>Volvox carterii</i>	<i>Volvox</i>	Volvocaceae	Volvocales	Eukaryota	Eukaryota	Eukaryota
<i>Chlamydomonas reinhardtii</i>	<i>Chlamydomonas</i>	Chlamydomonadaceae	Chlorophyta	Eukaryota	Eukaryota	Eukaryota
<i>Arabidopsis thaliana</i>	<i>Arabidopsis</i>	Brassicaceae	Angiosperms	Plantae	Eukaryota	Eukaryota
<i>Escherichia coli</i>	<i>Escherichia</i>	Enterobacteriaceae	Bacteroidetes	Bacteria	Prokaryota	Prokaryota

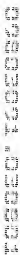
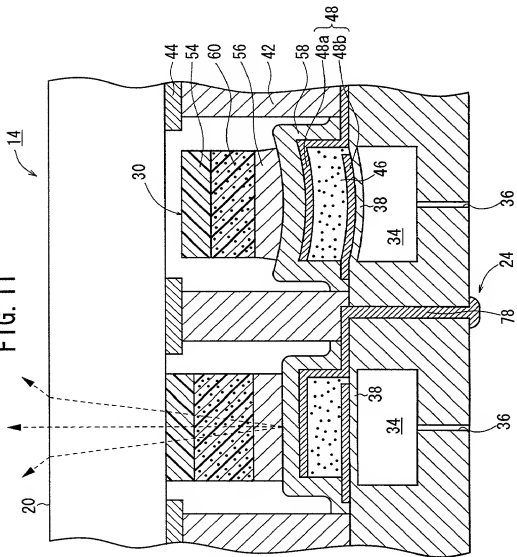
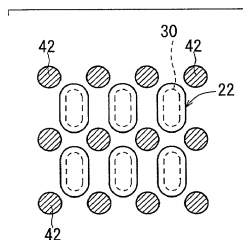


FIG. 11



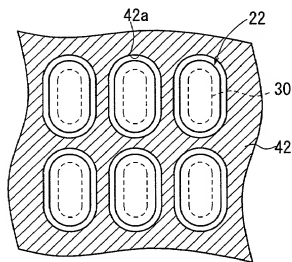
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FIG. 12



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FIG. 13

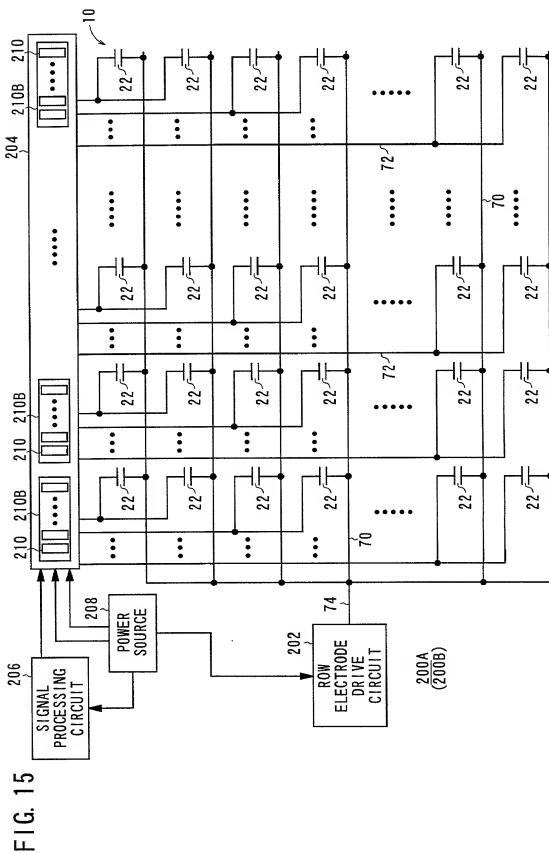


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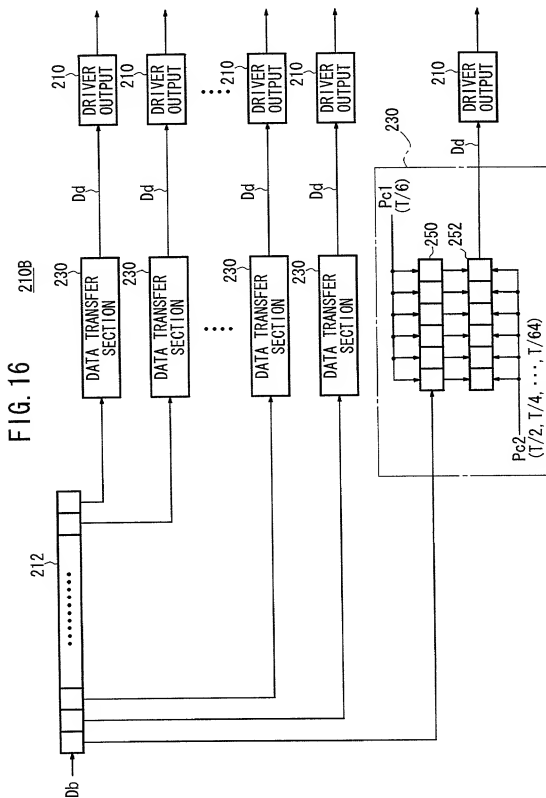
FIG. 14

OFFSET POTENTIAL	ON SIGNAL	OFF SIGNAL
	0V	60V
10V	-10V (LIGHT EMISSION)	50V (LIGHT OFF)

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FIG. 17

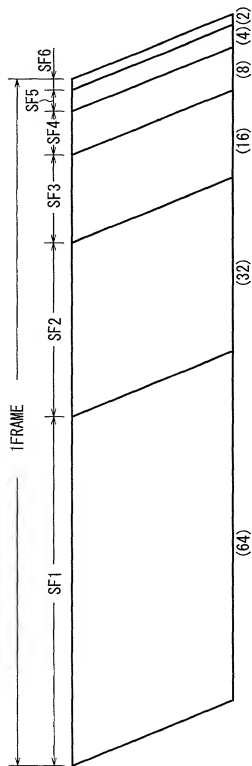
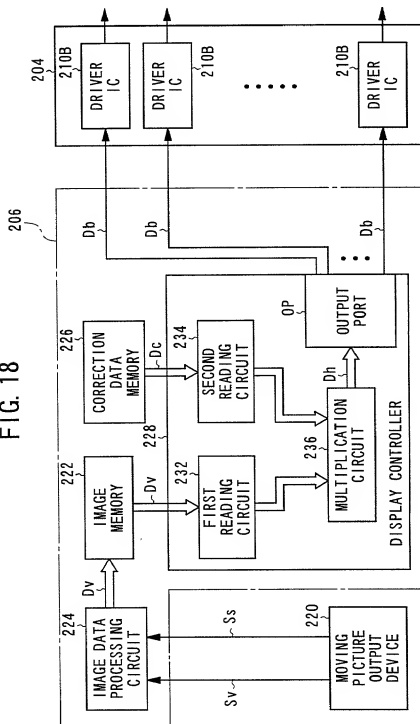


FIG. 17

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FIG. 18



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FIG. 19

OFFSET POTENTIAL	ON SIGNAL	OFF SIGNAL
	0V	60V
0V	0V	60V

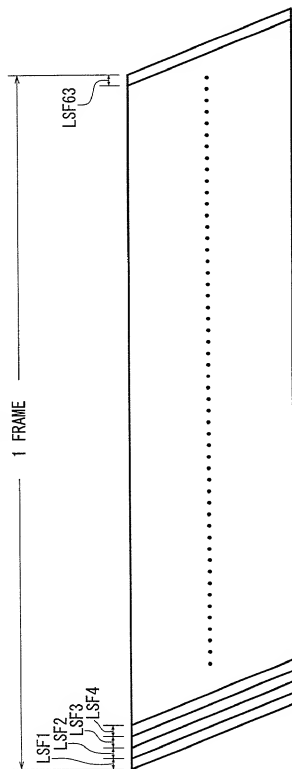
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FIG. 20

OFFSET POTENTIAL	ON SIGNAL	OFF SIGNAL
	60V	0V
50V	-10V	50V

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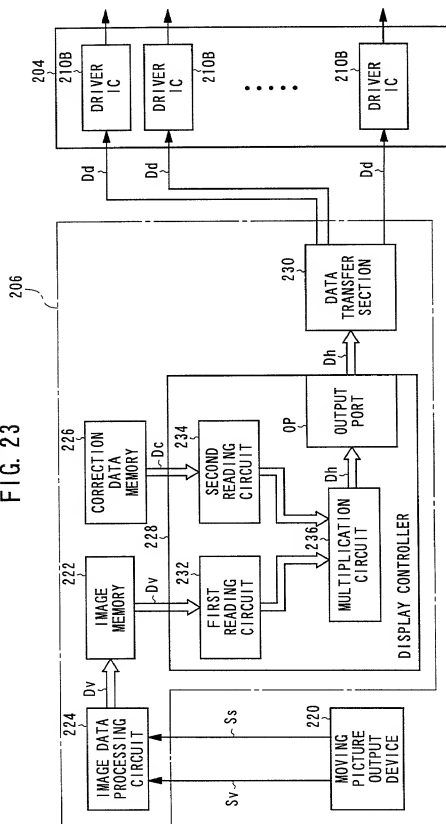
FIG. 21



[illegible][illegible]

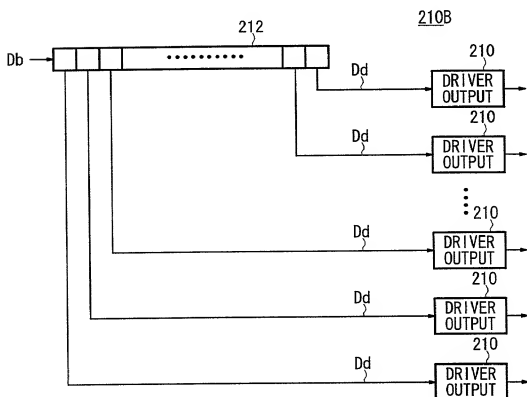
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FIG. 23



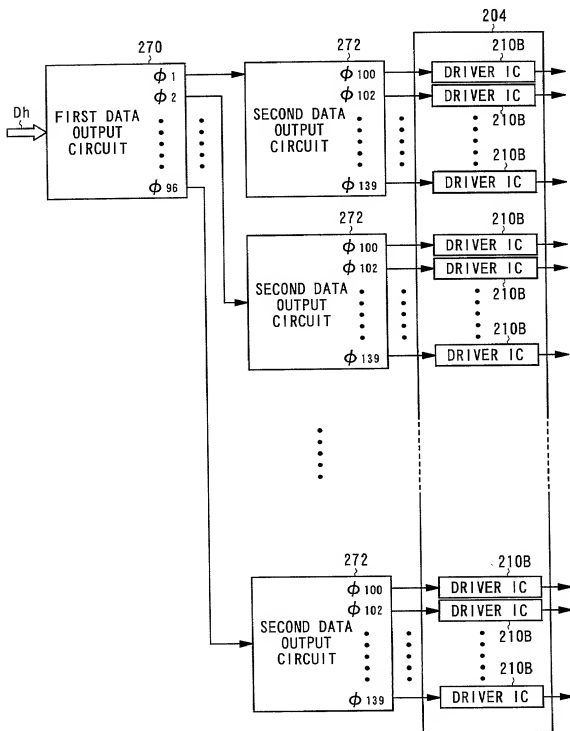
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FIG. 24



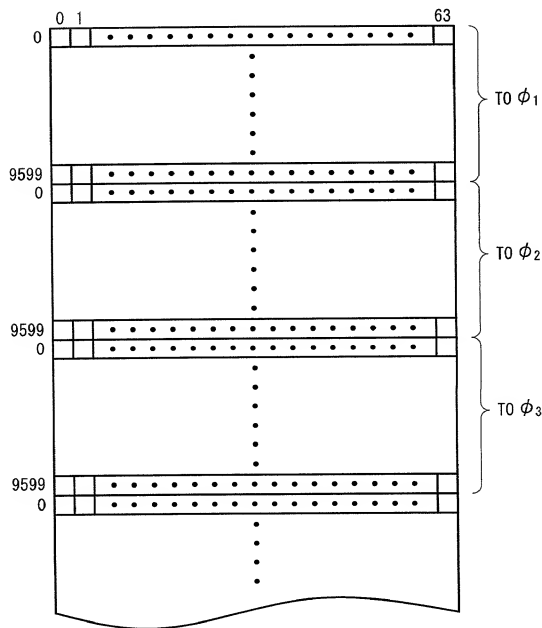
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FIG. 25



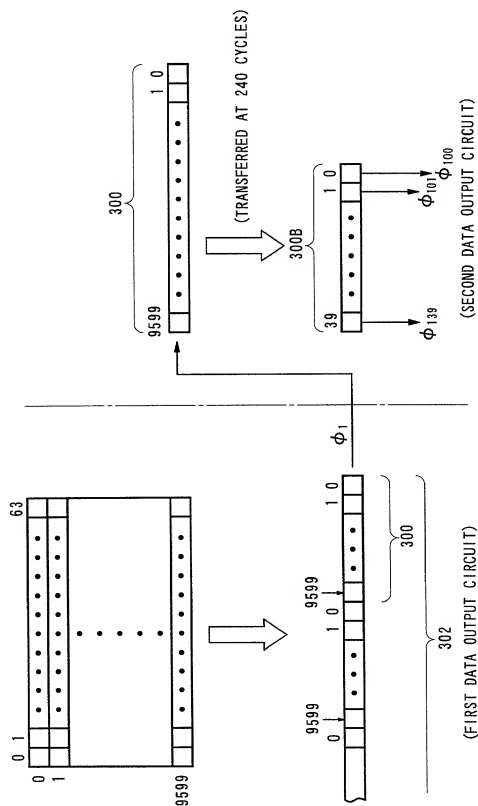
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FIG. 26



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FIG. 27



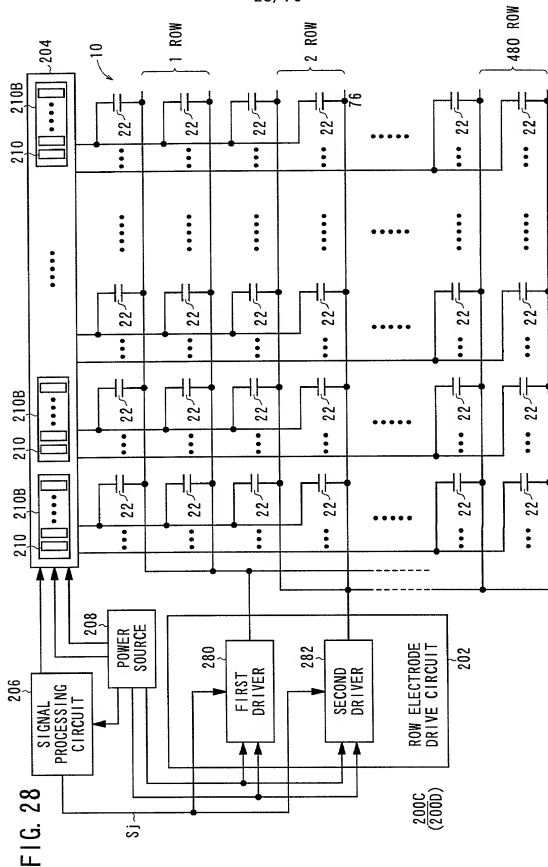


FIG. 28

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FIG. 29

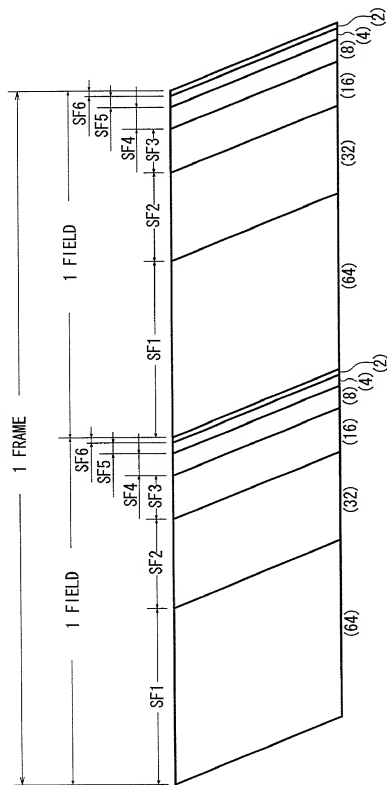
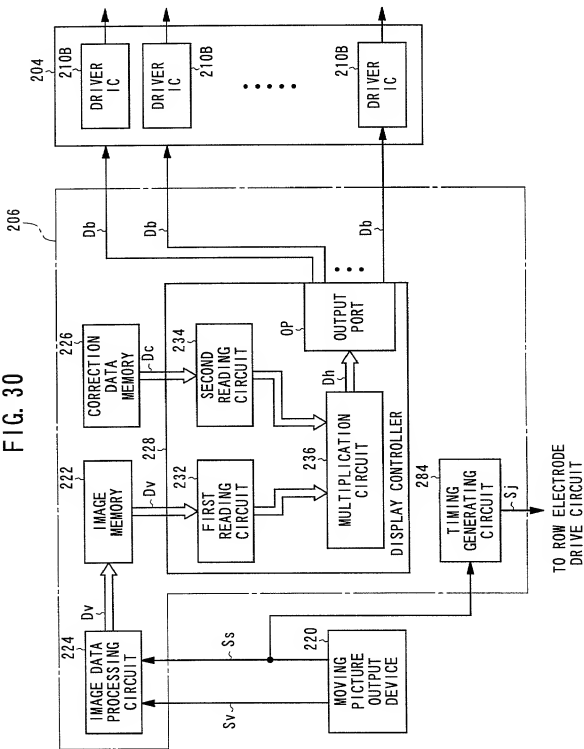


FIG. 30



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FIG. 31

		ON SIGNAL	OFF SIGNAL
		0V	60V
SELECT SIGNAL	10V	-10V (LIGHT EMISSION)	50V (LIGHT OFF)
NONSELECT SIGNAL	-50V	50V (LIGHT EMISSION)	110V (LIGHT OFF)

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FIG. 32

		ON SIGNAL	OFF SIGNAL
		0V	60V
SELECT SIGNAL	0V	0V	60V
NONSELECT SIGNAL	-60V	60V	120V

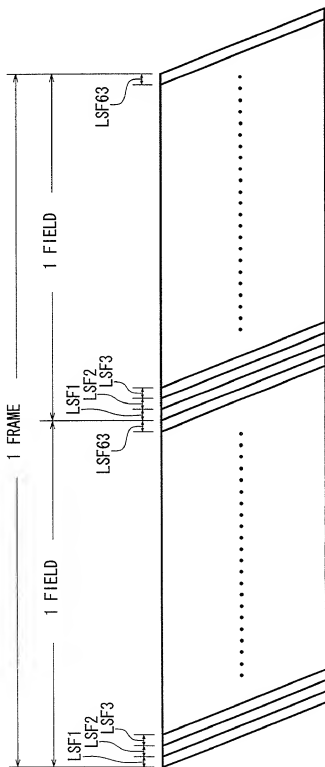
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FIG. 33

		ON SIGNAL	OFF SIGNAL
		60V	0V
SELECT SIGNAL	50V	-10V	50V
NONSELECT SIGNAL	110V	50V	110V

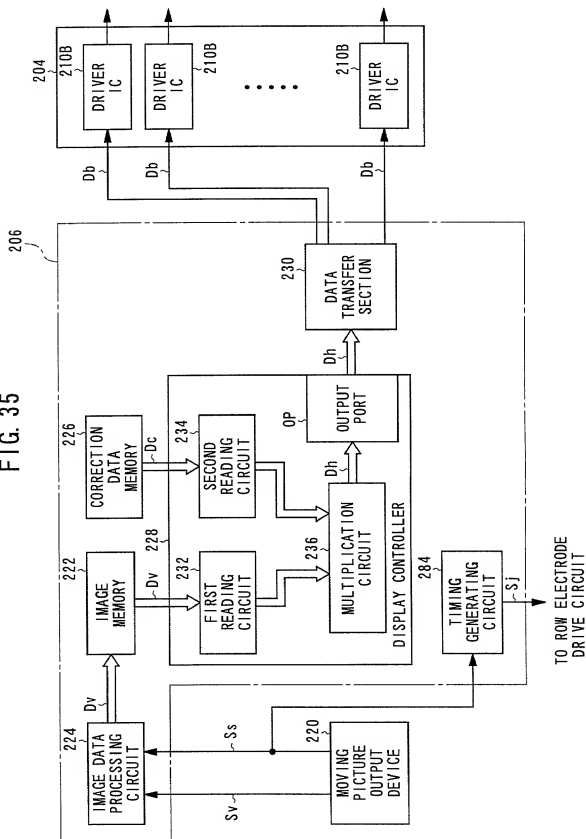
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FIG. 34



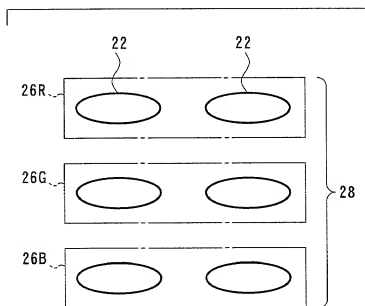
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FIG. 35



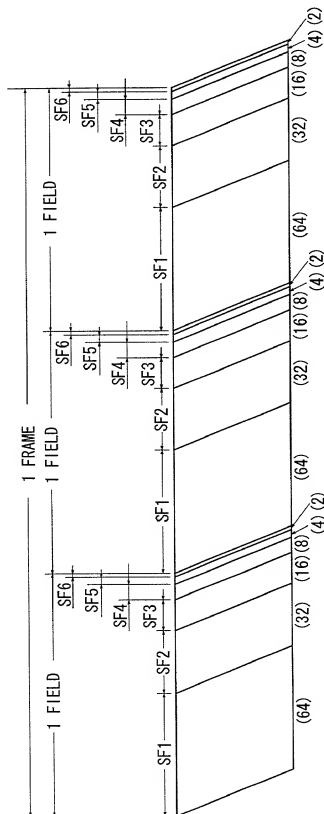
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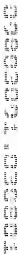
FIG. 36



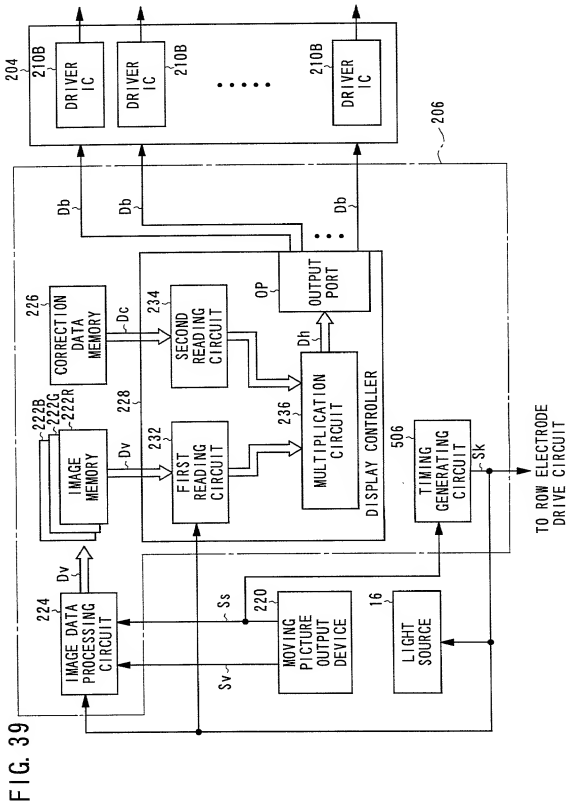
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FIG. 37



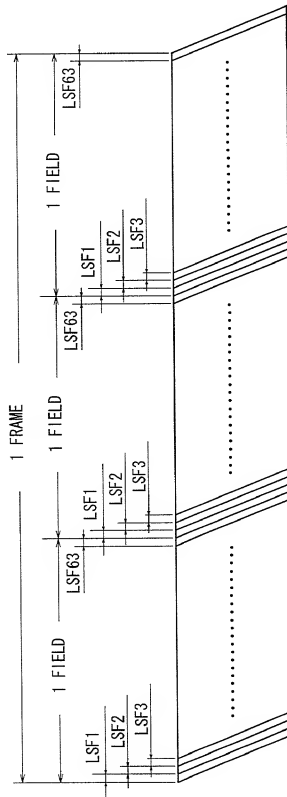
[illegible]

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FIG. 40



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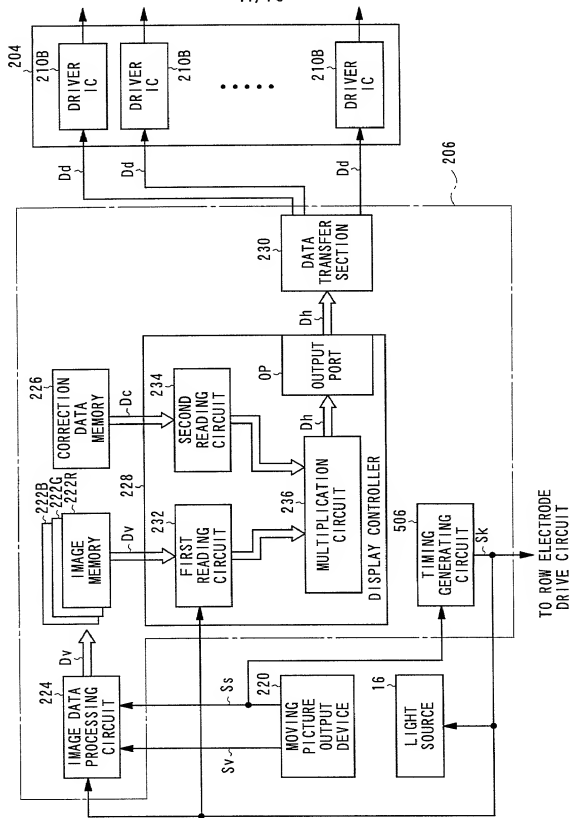


FIG. 41

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FIG. 42A

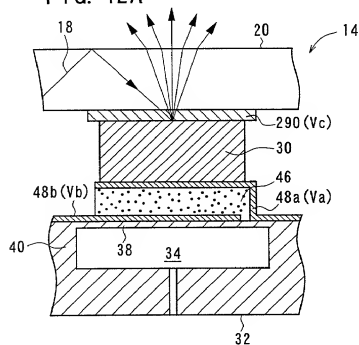
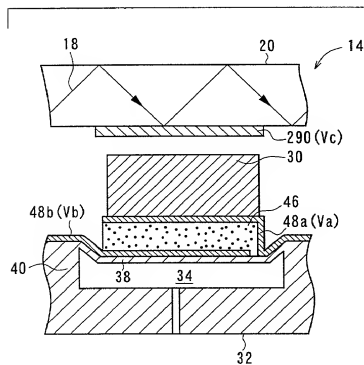


FIG. 42B



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FIG. 43A

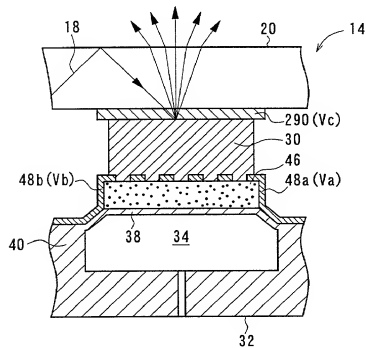
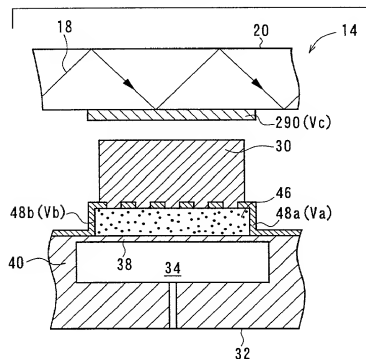
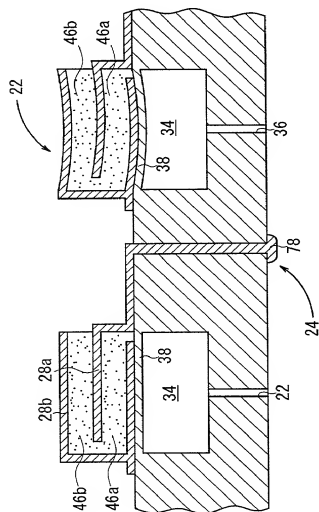


FIG. 43B



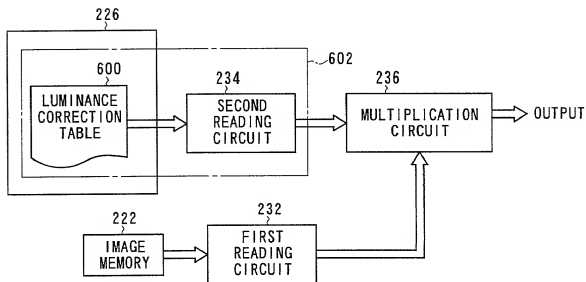
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FIG. 44



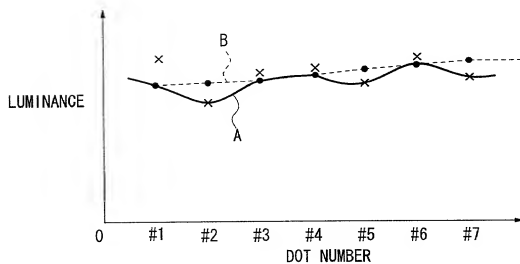
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FIG. 45



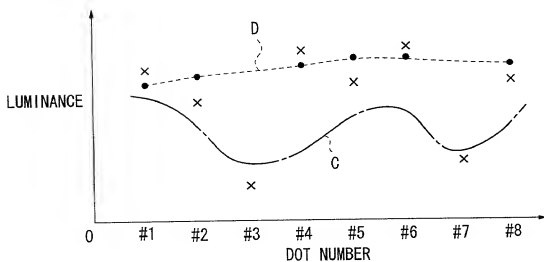
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FIG. 46



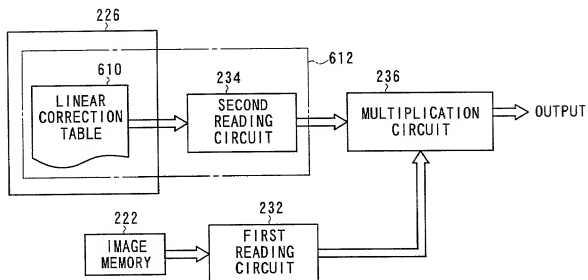
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FIG. 47



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FIG. 48



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FIG. 49A

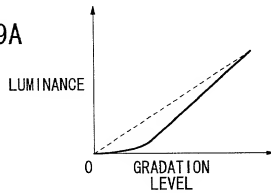


FIG. 49B

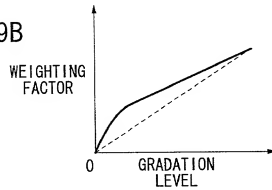
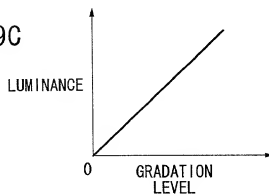


FIG. 49C



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FIG. 50A

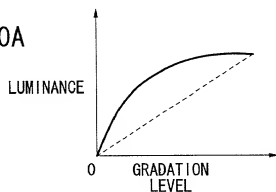


FIG. 50B

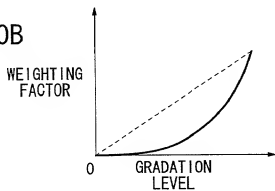
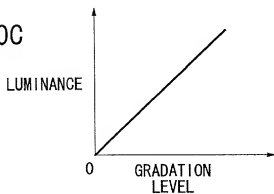
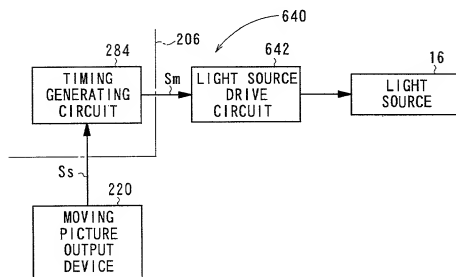


FIG. 50C



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FIG. 51



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FIG. 52A

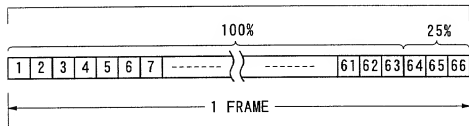
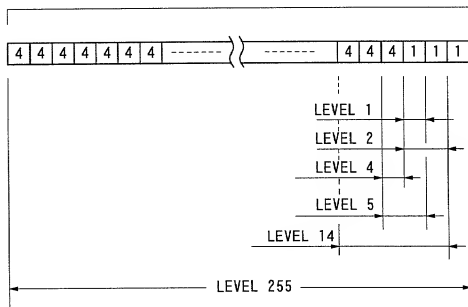


FIG. 52B



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FIG. 53A

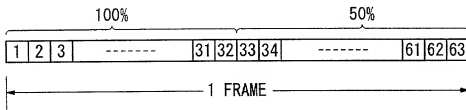
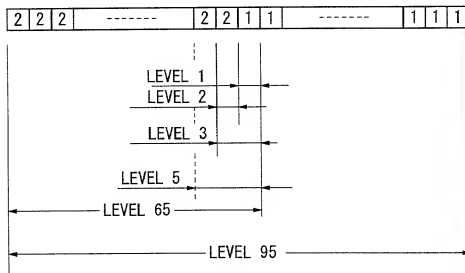
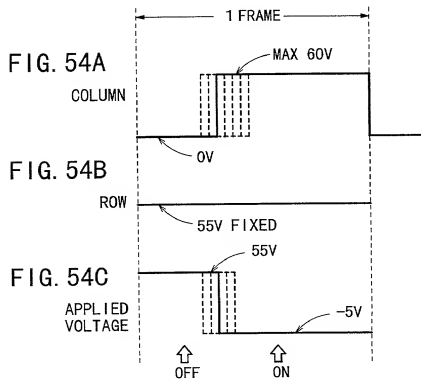


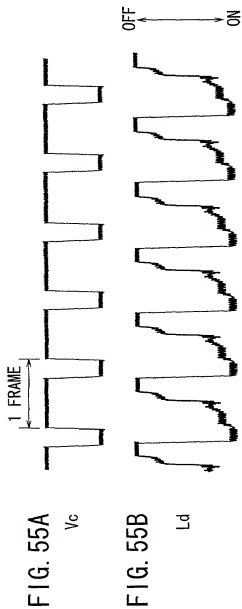
FIG. 53B



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FIG. 56A

COLUMN

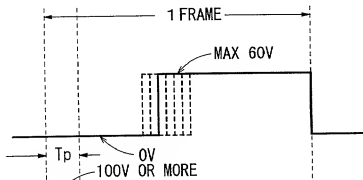


FIG. 56B

ROW

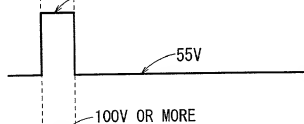
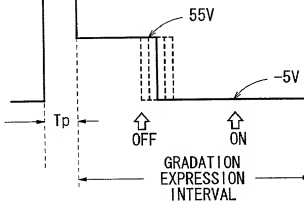


FIG. 56C

APPLIED VOLTAGE



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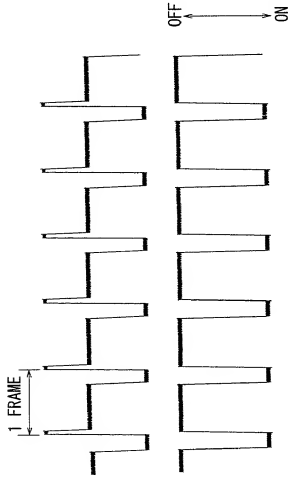


FIG. 57A

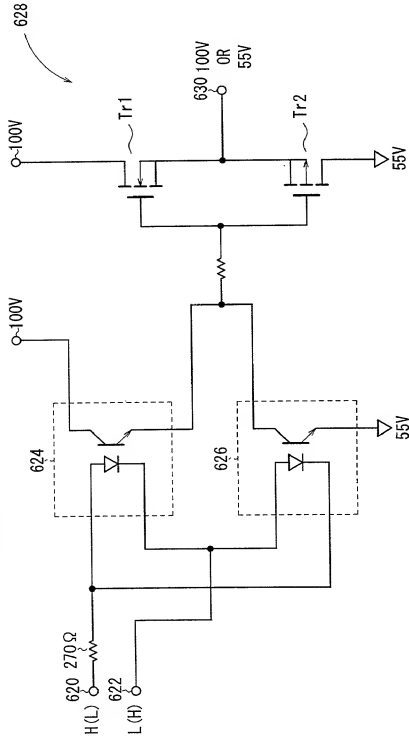
V_c

FIG. 57B

L_d

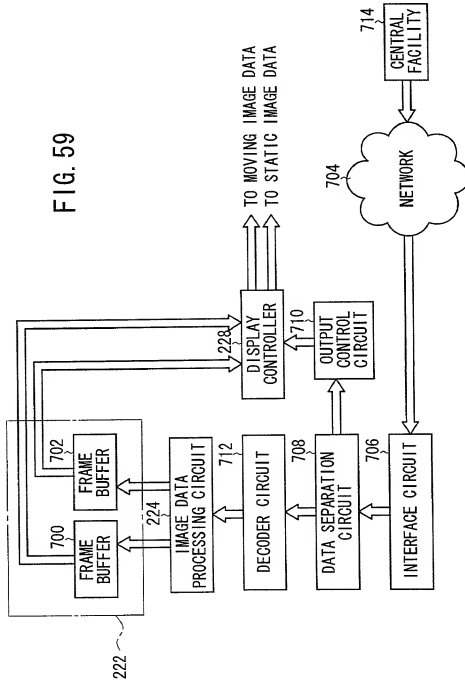
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FIG. 58



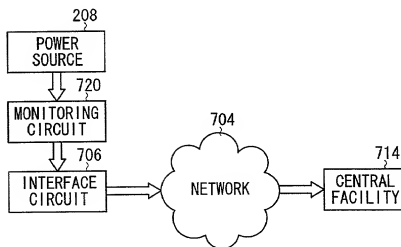
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FIG. 59



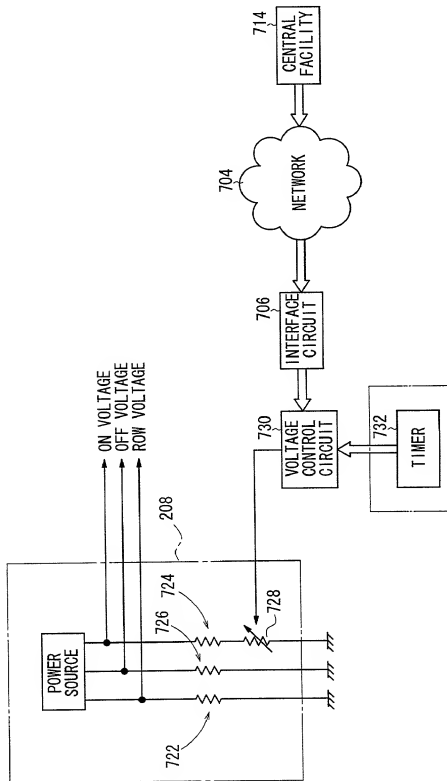
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FIG. 60



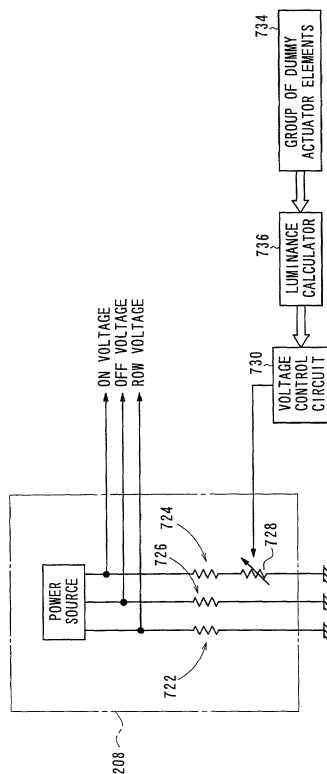
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FIG. 61



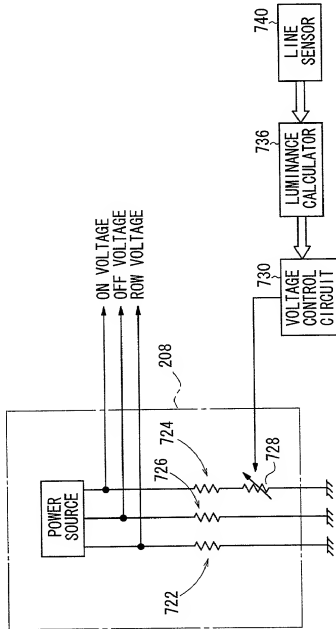
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FIG. 62

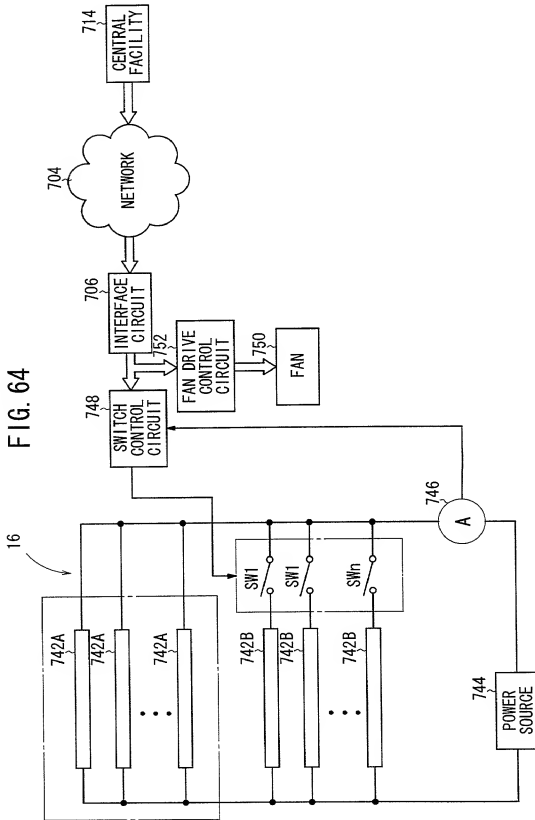


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FIG. 63

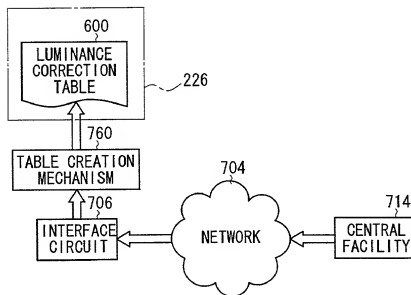


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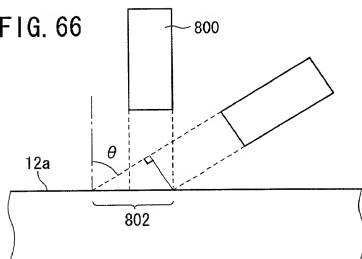
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FIG. 65



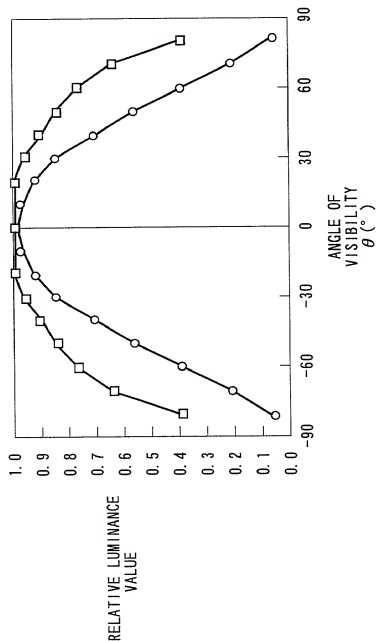
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FIG. 66



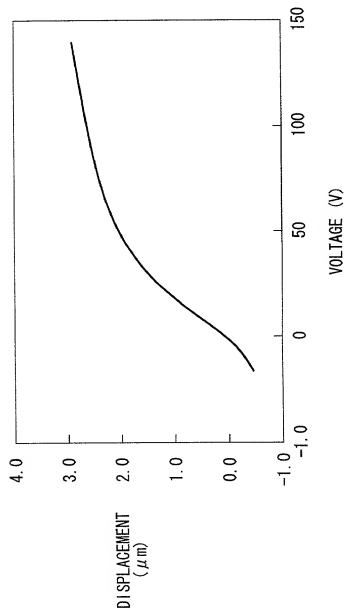
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FIG. 67



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FIG. 68



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FIG. 69A

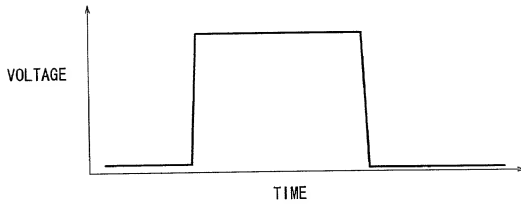
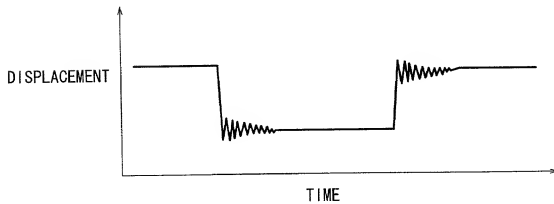
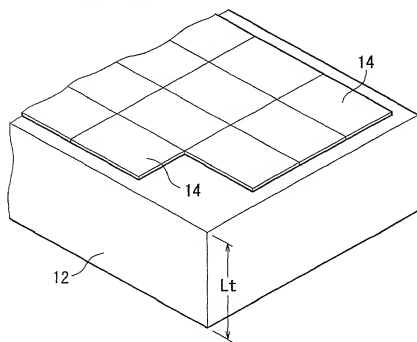


FIG. 69B



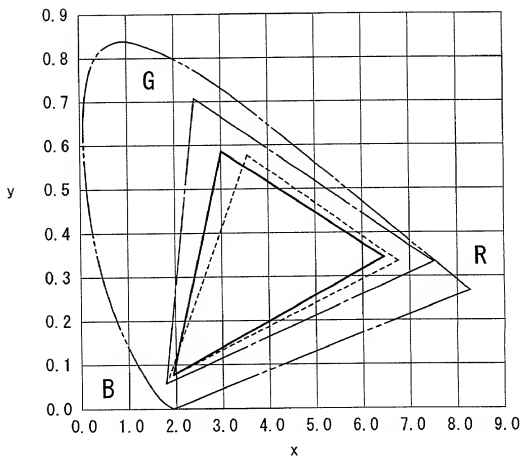
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FIG. 70



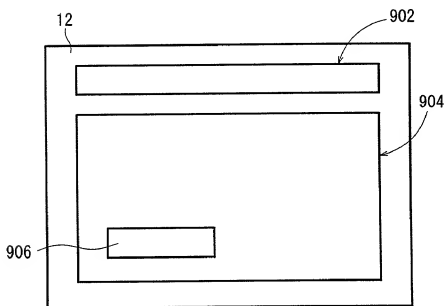
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FIG. 71



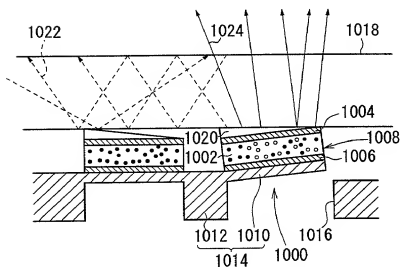
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FIG. 73



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FIG. 74



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FIG. 75

